

FREQUENCY STABILITY

OVER:

OPERATING TEMP. RANGE: *See note 1*

OVERALL STABILITY: $< \pm 50\text{ppm}^*$

INCLUDING:

- OVER OPERATING TEMPERATURE RANGE
- ADJUSTMENT @ 25°C
- LONG TERM AGING (1 YEARS)
- STABILITY OVER SUPPLY VOLTAGE $\pm 5\%$
- STABILITY OVER LOAD (MIN. TO MAX.)

POWER SUPPLY

SUPPLY VOLTAGE: $V_{dd} = 3.3V \pm 5\%^*$

INPUT CURRENT: $< 10\text{mA}^*$

OUTPUT

OUTPUT SIGNAL: *HC-MOS compatible **

SYMMETRY: $40 / 60\%$ (min.) @ $V_{dd} / 2^*$

RISE & FALL TIME: $tr < 7\text{ns}$ $tf < 7\text{ns}^*$

LEVEL "0" & "1": $< 0.4V$ $> V_{dd} - 0.5V$

START-UP TIME: $< 5\text{ms}$

FAN OUT (LOAD): $10\text{ TTL} / \text{LS}^*$

ENVIRONMENT

OPERABLE TEMP. RANGE: -55 to $+125^\circ\text{C}$

STORAGE TEMP. RANGE: -65 to $+125^\circ\text{C}$

VIBRATIONS: 10 to $2000\text{Hz} / 10\text{g}$

SHOCKS: 5000g , 0.3ms , $\frac{1}{2}$ sine

PACKAGE: *Ceramic*

PACKAGE DIMENSIONS: $14.1 \times 9.3 \times 2.4\text{mm}$

(see packaging info)

PROCESSING: *Reflow soldering $260^\circ\text{C} / 10\text{s}$ max.*

(see packaging info)

MISCELLANEOUS

* *Customer's specification on request*

Note 1: Operating Temperature Range

MCSOVT-A: 0 to $+70^\circ\text{C}$

MCSOVT-B: -40 to $+85^\circ\text{C}$

MCSOVT-C: -55 to $+125^\circ\text{C}$

Option 1: Enable / Disable (on request)

See application circuit on page 2 for details

Pin 1: Pin 3 (Fout)::

Open Clock

H Clock

L High Z

Not available for $f < 500\text{kHz}$

Option 2: J / Leads (on request)

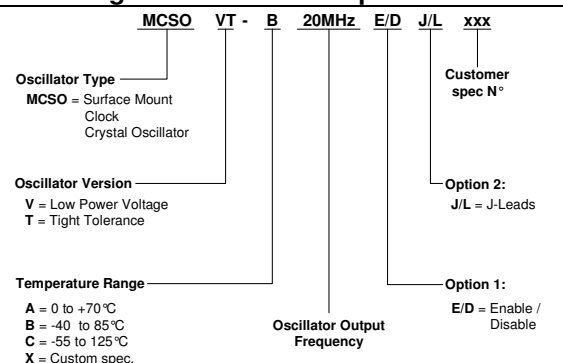
With tinned J / Leads pins

Height: 3.8mm included J / Leads

Marking Example

| Micro Crystal | | Micro Crystal | |
|---------------|-------|---------------|-----------|
| MCSOVT-B | E/D | Type | Option 1 |
| 20.000 MHz | 09.40 | Frequency | Date Code |
| O | | O (PIN 1) | |

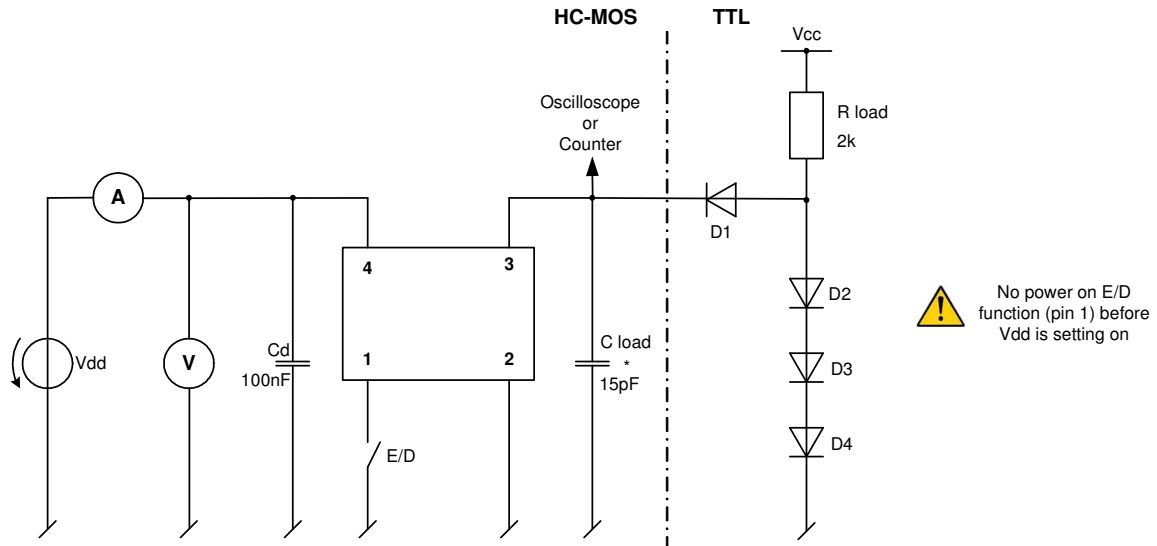
Ordering Information Example



STANDARD FREQUENCIES [MHz]

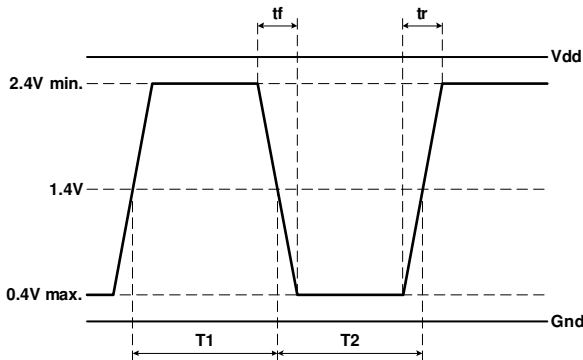
| | | | | | |
|---------|---------|---------|---------|---------|----------------|
| 10.0000 | 10.1500 | 10.2300 | 10.2400 | 11.0592 | 12.0000 |
| 12.2880 | 12.8000 | 13.0000 | 14.7456 | 16.0000 | 16.3840 |
| 18.4320 | 19.2000 | 19.6608 | 20.0000 | | & sub multiple |

Application and Test Circuit:

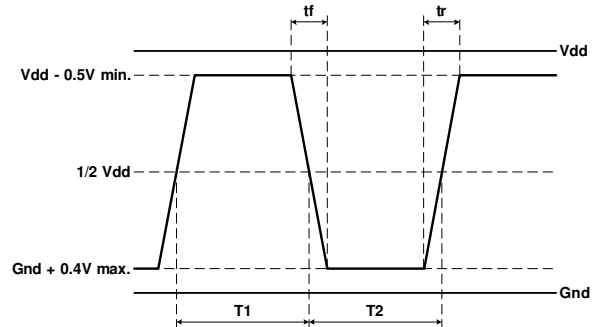


Waveform Output:

Waveshape TTL



Waveshape HC-MOS



$$Duty\ Cycle = 100 \times \frac{T1}{T1 + T2} [\%]$$

| | | | | | |
|--------|-----------|----------------|---|-----------------|-------|
| Date : | June 2003 | Revision No. : | 8 | Revision Date : | 10-09 |
|--------|-----------|----------------|---|-----------------|-------|

In accordance with our policy of continuous development and improvement, we reserve the right to modify the design or the specifications of our products without prior notice.

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